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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,470	07/01/2003	Atsushi Yasuno	03500.017390.	1051

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EXAMINER	
STOUFFER, KELLY M	

ART UNIT	PAPER NUMBER
1762	

MAIL DATE	DELIVERY MODE
08/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/609,470	YASUNO, ATSUSHI	
	Examiner	Art Unit	
	Kelly Stouffer	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11 July 2007 have been fully considered but they are not persuasive. The applicant argues that Moleshi does not teach transporting a substrate during film formation, employing a plurality of discharge means disposed in the reactor, and changing the coating steps as claimed when the film is at a present temperature. However, it is noted by the examiner that the claims are rejected under 35 USC 103(a) as being obvious over the combination of Moleshi and Chan. As was stated in the previous office action, one cannot show nonobviousness by attacking references individually, such as Moleshi, where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Moleshi in view of Chen teaches the claim limitations of transporting the substrate through the reactor and using discharge means disposed within the reactor (see previous office actions and below for specific citations). As to the temperature limitations, the multi-switch processing apparatus of Moleshi is based upon energy sources, which would include heat sources and corresponding temperatures (column 8 lines 1-10), and the process activation switch for the switching discharge means may be substrate temperature (column 8 lines 19-25) that operates with a preset temperature at its 'on' state and turns 'off' and switches at a predetermined energy level, or above a preset temperature (column 8 lines 30-55). When in combination with Chan, as combined

below, this occurs during continuous processing inside the reactor. As to the arguments drawn to different types of films in Chen, it is the examiner's position that the term "film" in the independent claims is very broad, and Chen meets this limitation as claimed.

Therefore, the prior art rejections of the previous office action are maintained and are repeated here.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moleshi (US 5273609) in view of Chan (US 5653811).

Regarding claims 1-4, Moleshi includes a film formation process for controlling film formation temperature to overcome thermal stress limitations (column 1 lines 49-55

and column 6 lines 3-21) in which a source gas is fed into a discharge space of a reactor and electric power is applied to generate discharge in the discharge space to decompose the source gas, forming a deposited film on a substrate by switching electric power between a first and second discharge means to form a film with semiconductor layers of the same conductivity (columns 7-8 and 10-11 et seq.) The multi-switch processing apparatus of Moleshi is based upon energy sources (column 8 lines 1-10), and the process activation switch for the switching discharge means may be substrate temperature (column 8 lines 19-25) that operates with a preset temperature at its 'on' state and turns 'off' and switches at a predetermined energy level, or above a preset temperature (column 8 lines 30-55). Moleshi does not include using a device that has capabilities for moving the substrate through the reactor during film formation to be coated by discharge means disposed within the reactor. Chan teaches using a device that has capabilities for moving the substrate through the reactor during film formation to be coated by discharge means disposed within the reactor in order to sequentially treat more than one substrate and use a plasma source attached to the reactor the produced plasmas from specific gases (column 4 lines 8-31 and Figures 5 and 6). Additionally, Chan teaches the plasma sources of its disclosed invention may be used to make plasmas of any size (column 1 lines 40-60). It is therefore obvious that one of ordinary skill in the art could easily apply this invention to a wafer that is belt shaped, as it would be functionally equivalent in Chan and could be used for other, larger applications such as windows. Additionally, it is obvious that since the substrate is moving, any

subsequent step after the first in Chan would be performed on a different position of the deposited film.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Moleshi to include using a device that has capabilities for moving the substrate through the reactor during film formation to be coated by discharge means disposed within the reactor as taught by Chan in order to sequentially treat more than one substrate and use a plasma source attached to the reactor the produced plasmas from specific gases.

Regarding claims 5-12 and 14, the process of Moleshi uses multiple plasma sources and senses multiple conditions such as temperature, time, voltage, and current which activate switches that turn the plasma source from one to the other (column 4 lines 5-43, column 8 lines 10 – column 12 line 36, and Figure 2).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Stouffer
Examiner
Art Unit 1762

KMS

BRET CHEN
PRIMARY EXAMINER